Explorations in the Food Systems Inside Residential Settings for Individuals with Intellectual and Developmental Disabilities

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Abstract

The purpose of this study is to explore multiple aspects of food experiences of individuals with intellectual and developmental disabilities (IDD) living two different residential settings, intermediate care facilities (ICF) or living in the community and receiving supported living services. For individuals with IDD living in these settings, the evolution of food environments is a complex process. It is shaped by personal preference and acuity level, staff knowledge and values of cooking and human nutrition, and federal and state policies. The research 1) evaluates staff members' values and education; 2) documents the type and amount of food provided and consumed by residents; 3) observes staff interactions during meal time; and 4) develops a deeper understanding about political trends and regulations impacting housing, disability rights, and the diet of individuals seeking residential services. Data collection includes quantitative surveys, direct observations, and in-depth interviews of staff and residents at a local residential services provider, Franklin County Residential Services. Surveys were administered to managers and direct support professionals in supported living and an intermediate care facility. Surveys were developed with input from agency managers, the agency's dietitian, and an extensive literature review. The research team developed interview guides for the policy experts and the staff dietitian. Field notes document observations of meals to gain a better understanding of an individual's role in dietary choice. As disability housing policy begins to emphasize living in the community and utilizing supported living services, it is important for providers to know the barriers their clients may face to healthy diets and how staff can help their clients overcome these barriers.

The purpose of this study is to observe and explore the many aspects of the food experiences of individuals with developmental disabilities living in two different types of residential facilities for individuals with intellectual and developmental disabilities (IDD). The research team partnered with Franklin County Residential Services (FCRS), a local residential service provider, to complete the study in one of their intermediate care facilities (ICF) and multiple homes they provide supported living services. For the purpose of this study, when community-based living or community living refers to an individual who is living in the community and receiving supported living services. The researcher uses a person-in-environment framework to assess how policies, regulations, and staff decisions in these two settings impact the food environment and diets of adults with intellectual disabilities. This study attempts to synthesize together the values and education of staff, observations on the food system in action, with the social and political disability rights environment. With five different data collection tools, staff surveys, mealtime observations, resident interviews, professional interviews, and policy analysis the study attempts to understand how factors inside and outside of an individual's home influenced his or her food environment.

Literature Review

During the literature review, the researcher was interested in reading about differences in food environment quality based on settings, if there was research previously conducted on policy's influence on food environments, and if there were any suggestions on improving food environments for individuals with IDD. A literature review was conducted by searching databases with specialized emphasis on health, nutrition, medical, social work, and sociology. Databases selected included Academic Search Complete, Academic Search Premier, Alt HealthWatch, CINAHL Plus with Full Text, Consumer Health Complete - EBSCOhost, Health

and Psychosocial Instruments, Health Source - Consumer Edition, Health Source: Nursing/Academic Edition, Humanities & Social Sciences Index Retrospective: 1907-1984 (H.W. Wilson), MEDLINE, MEDLINE with Full Text, Psychology and Behavioral Sciences Collection, PsycINFO, Science Reference Center, Social Sciences Abstracts (H.W. Wilson), Social Work Abstracts, SocINDEX with Full Text, Sociological Collection. If an article could not be located in The Ohio State University's database, PubMed and PubMed Health from the National Center for Biotechnology Information databases were used to try to supplement the search. Search terms included nutrition, food, intellectual disabilities, residential services, developmental disabilities, group homes, institutions, and community living. For authors whose name or work was frequently cited, the ResearchGate.net was used to see if the authors had more work relevant to the topic.

An initial literature review revealed a limited number of articles published within the past 10 years directly related to food and nutrition inside ICFs or in homes receiving supported living services. Within the past 10 years, research has mainly focused on interventions to improve diets inside various residential settings (Bergstrom, Hagstromer, Hagberg, Schafer, & Elinder, 2013; Edwards, Holder, Baum, & Brown, 2104; Humphries, Traci, & Seekins, 2008). None of the research explored differences in nutritional quality across residential settings. The research was either conducted in homes where people received supported living services (Bergstrom, Hagstromer, Hagberg, Schafer, & Elinder, 2013; Humphries, Traci, & Seekins, 2004) or in group homes, but not necessarily ICFs, (Edwards, Holder, Baum, & Brown, 2104; Humphries, Traci, & Seekins, 2008).

All of the noted literature recognized the important role of staff, but only one master's theses attempted to understand the specific values or knowledge of staff concerning human

nutrition and cooking skills (Carafa, 2015). None of the peer-reviewed articles discussed any state or federal regulations and their influence on the food environments. One doctoral dissertation looked at barriers to healthy food environments individuals and support staff face, which included looking at government regulations (Sisirak, 2012). Sisirak's (2012) study used various community-based organizations in two different states to create the list, but did not explore how the differences in the organizations or types of housing can influence food environments. Using grounded theory during the focus groups, she generated a list of 89 different factors that can form an individual with IDD's food environment. Her research serves as an inspiration for this project.

In a British study, Bryan, Allen, and Russell (2000) looked at how health outcomes shifted as individuals with IDD moved from long-term care facilities, similar to an ICF, into the community. They wanted to know if there would be any changes in individuals' weights and the nutritional adequacy of meals in the community. The authors of the study recognized the potential effects on mealtime when individuals with IDD move into the community. They found that after moving into the community, the nutritional value of meals was not adequate to support healthy lifestyles and many of the individuals had "unintentional weight changes." (Bryan, et al, 2000, p. 269). They were concerned with the secondary health conditions as a consequence of poor diet and weight changes and the ability of the community to support individuals with IDD. This realization that settings can influence the nutritional quality of meals and the health outcomes of residents helped inform my research questions. After 16 years and in another country, are there still disparities in nutritional adequacy in the community compared to long-term support?

This research hopes to answer this question and others to provide information to fill in

the gaps in the current knowledge of this topic. The research project looks at three different research questions:

Q1. How do food environments vary between residential settings for adults with intellectual disabilities?

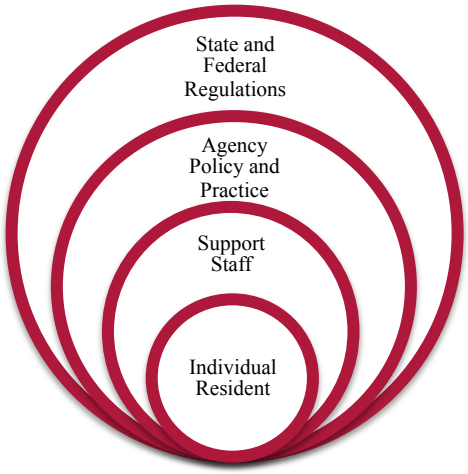
Q2. How do differences in state and federal food and nutrition regulations in the different settings impact meal planning?

Q3. What is the potential impact for the contemporary movement to move clients from an intermediate care facility (ICF) to receiving supported living on their food environments?

Theoretical Framework

In order for readers to gain a comprehensive understanding of food environments the researcher knew they had to include as many aspects of the food environment as possible. When designing the study, it was important to the researchers that the project maintained a person-in-environment point of view and worked from a generalist systems theoretical framework (Segal, Gerdes, & Steiner, 2013). A visual representation of the theoretical framework used throughout this paper is found in Figure 1. The residents in each setting are at the center of the person in environment, with the specific residential settings, its staff, rules, regulations, and policy consisting of the environmental context impacting residents with intellectual disabilities. Because of this it was necessary for the research team to develop multiple data collection tools.

Figure 1: Person In Environment Framework



Background

For individuals with developmental and intellectual disabilities in the state of Ohio, there are multiple housing options, each with varying independence, support, and cost. Limited time and resources restricted this research project to only looked at two types of residential settings for individuals with IDD. This section gives a brief overview on the two styles of housing ICFs and supported living services.

Intermediate Care Facility for Individuals with Intellectual Disabilities (ICF-IDD)

"Intermediate Care Facilities for Individuals with Intellectual Disabilities (ICF-IIDs) are licensed by The Ohio Department of Developmental Disabilities (DODD) to be operated by a specific provider at a specific location. The Ohio Department of Health (ODH) certifies the licensed facility as meeting the federal requirements (Medicaid) for funding as an ICF-IID. The provider is responsible for all aspects of care for the individual, including financial matters, transportation, habilitation, and medical needs." (Ohio Department of Developmental Disabilities, 2015a, 1)

ICF's began operating in the 1970s, and have evolved over the past three decades. They evolved after public pressure from parents and advocates to move individuals with IDD out of institutions. During the past 30 years, ICFs have shifted their role in the field to serve the most medically-fragile and behaviorally-challenged clients (Ohio Department of Developmental Disabilities, 2012). Today, ICFs have 24-hour staff support with access to nurses and dieticians. Depending on the size and scope of the agency, residents may have access to other ancillary services like speech therapy, occupational therapy, and physical therapy (Ohio Department of Developmental Disabilities, 2015). Across Ohio, ICF's are diverse. Some larger ICFs provide services to 50 or more individuals in one building, and may look similar to a nursing home to someone who has never visited an ICF before. Smaller ICFs may look more discrete and, instead of a large facility, the ICF is a cluster of ranch-style houses; four or eight individuals living in

one building. At the ICF observed in this project, three buildings were broken into two apartments for four individuals. Each individual has his or her own room and bathroom and share a living area and kitchen. Previous regulations allowed up to four individuals to a room in ICF's, but the DODD recently initiated a change to limit rooms to one or two individuals. ICF's meeting the prior regulation, but not the new regulations, must develop a business plan to meet the requirements (A., Allen, personal communication, 2015). A discussion on the current initiative to downsize ICF's can be found in the "Downsizing" section of "Current System Transitions".

Funding. ICFs are funded through a reimbursement package from the Department of Developmental Disabilities that includes state and federal Medicaid dollars. A combination of factors including the number of residents, resident acuity, amount of staff time each individual requires, behavioral or medical needs, and associated business costs are considered when determining the reimbursement rate paid to providers. The funding is intended to pay for a majority of the services an individual living in an ICF may need during their time of residency in an ICF (OAC 5123:2-7-15). An ICF's food and beverage budget comes out of this reimbursement package and the agency decides how to spend the food budget. For the specific ICF observed, the weekly food budget for any given apartment is relatively large to encourage the purchase of fresh produce and to ensure that an apartment never runs out of food (B. Thurn, personal communication, 2015).

Regulations. ICFs are the most regulated and standardized residential settings. They must follow Medicaid ICF-IDD rules, Department of Health rules, and DODD licensure rules. Regarding food and dietary services, ICFs must follow the rules listed in Table One.

Table 1: ICF Regulations

Medicaid	• 42 CFR (Code of Federal Regulations) **483.480,** *Subpart I - Conditions of Participation for ICF-IDD* *Sections pertaining to nutrition services:* *483.480 (A)* ***Standard: Food and Nutrition Services*** *483.480 (B)* ***Standard: Meal Services*** *483.480 (C)* ***Standard: Menus*** 483.480 *(D)* ***Standard: Dining Areas and Services***
Ohio Department of Health	• In charge of conducting surveys of facilities to gain and maintain certification to run as an intermediate care facility. Enforces the conditions of participation set forth by Medicaid.
DODD	• Ohio Administrative Code **5123:2-3-12***: Food, clothing and personal items (*this rule will be replaced on October 1, 2016, by **5123:2-3-04** *Licensed residential facilities-provisions of services and maintenance of service records*.)

42 CFR (Code of Federal Regulations) 483.480, *Subpart I - Conditions of Participation for ICF-IDD* (2015) is the State Operations Manual for ICFs and is authored by the Center for Medicaid and Medicare Services. It is the national operating guide for ICFs and includes all of the rules and regulations an ICF must follow. In Ohio, ODH completes compliance reviews and then gives the compliance reviews to the DODD. Noncompliance to the conditions results in loss of certification and funding. In regards to food, there are four specific categories of rules that directly impact the food environment of residents in an ICF. The four categories are food and nutrition services, meal services, menus, and dinning areas and services.

The Food and Nutrition Services Standard outlines the rules for ICFs to provide "well balanced meals (42 CFR 483.480 (a), no page)" Meals need to be modified to the needs of residents. In the absence of medical needs or dietary restrictions, meals must adhere to the current recommended dietary allowances from the Food and Nutrition Board for the National Research Council, National Academy of Sciences. This standard also states that all ICFs must have "qualified dietitian employed either full-time, part-time, or on a consultant basis at the facility's discretion (42 CFR 483.480 (a), no page." However, some agencies that do not have

the resources to employ a dietician or prepare food onsite may purchase prepared meals directly from suppliers who employ dieticians to fulfill this requirement. The Meal Services Standard states that residents should receive three meals a day from the ICF at "regular times comparable to normal mealtimes in the community (42 CFR 483.480 (B), no page number)." All food must to be served in appropriate portions close the serving size on the menu and at appropriate temperatures. Menu Standard states that an ICF's dietitian is required to write a menu that includes portion size and meets recommended dietary allowances set by the Food and Nutrition Board for the National Research Council, National Academy of Sciences for residents adjusted for age, race, and sex. Menus should use seasonal and fresh produce, offer a "variety of options from each food group (42 CFR 483.480 (c), no page number)," and should vary from day to day. Lastly, the Dining Areas and Services Standard states that all clients, unless noted otherwise, should eat in the same designated dinning area. The ICF is responsible to provide dining utensils and equipment, if residents need adaptive equipment the ICF must provide it. During all meals staff must be present to supervise residents and provide assistance as needed.

ICFs must be a licensed residential facility by the DODD, which means they not only have to follow rules written by Medicaid, but also rules written by the DODD for licensed residential facilities. Rules for licensed residential facilities are promulgated in the Ohio Administrative Code (OAC) and apply to ICFs and licensed group homes. These rules are enforced by the DODD; noncompliance can lead to a revoking of a license. For food, there is one rule and regulations ICFs must also follow. OAC 5123:2-3-12: *Food, clothing and personal items* requires all licensed residential facilities must have three days worth of fresh food at all times and five days worth of staple foods. All food must be stored in appropriate methods and meet food storage health codes. On October 1, 2016 this rule will be replaced by OAC 5123:2-3-

04 *Licensed Residential Facilities-Provisions of services and maintenance of service records*. This rules includes the rules from the past regulation and expands on the obligations the provider must meet but expands the requirement that facilities must provide meals and snacks to meet an individual's nutritional needs and provide a variety of substitutions in the event that a meal or snack doesn't align with an individual's personal preference of religious beliefs. Finally, if an individual needs a modification in their diet, all food must be prepared in accordance to a physician or dietitian's instructions.

Supported Living Services

When an individual with IDD lives in his or her own home or apartment in the general community, with or without roommates, he or she can receive supported living services from an agency or independent provider. The amount of staff support available to an individual ranges from a few hours a week to 24-hour care. For most individuals living in the community receiving supported living services, unless the individual's family is able to pay for services, funding assistance is necessary to pay for supported living services. Individuals with IDD who are eligible for Medicaid are also eligible for funding through Home and Community-Based Services (HCBS) waivers (Ohio Department of Developmental Disabilities, 2015a). There are four different types of HCBS waivers, all with varying amounts of money, regulations, and types of fundable services. The four types are independent options (I/O), level one, transitions for developmental disabilities (TDD), and the self-empowered life funding (SELF) (Ohio Department of Developmental Disabilities, 2015a).

"Home and Community-based Waivers are Medicaid funding that provides additional services and supports to eligible individuals, beyond what is offered through the State Plan, to help individuals to live in community settings of their choice with supports instead of an institution. Funding is made possible through a combination of federal, state, and local levy dollars" (Ohio Department of Developmental Disabilities, 2015b, 1).

Funding. In Ohio, the majority of waivers are administered at the county level through County Boards of Developmental Disabilities, but a small portion of HCBS waivers are administered through the DODD. County HCBS waivers get their funding by county-based levies and Medicaid match dollars (OAC 5123:2-1-02). If a County Board does not pass a levy, their funding can impact the availability of nursing services, assistive technology, and therapies (e.g., occupational therapy, physical therapy, and speech therapy). HCBS waivers cannot be used to pay for rent, utilities, or food. Money to pay for these household budget items typically comes from Social Security or employment income (Ohio Department of Developmental Disabilities, 2015a).

If this combined income is not enough, some individuals may be eligible for government food assistance programs (e.g., the Supplemental Nutrition Assistance Program (SNAP)) or emergency food assistance from local food pantries. For rent assistance, several Ohio housing corporations are designed specifically for individuals with developmental disabilities and offer specialized low-income housing or rent assistance programs (A., Allen, personal communication, 2015). Both of the homes receiving supported living services that participated in this project were receiving housing support from Creative Housing, a Franklin County based organization that provides housing options for individuals with IDD. Creative Housing owns properties individuals with IDD can rent and the cost of rent is determined by the income of the individual. They also offer a rent subsidy program, where a resident can choose their landlord and they will pay a certain percentage of their income and Creative Housing covers the remaining percentage of the rent (Creative Housing, n.d.).

Regulations. Table two: Supported Living Regulations provides a list of rules and regulations pertaining to food for providers who deliver HCBS waiver funded services, such as

supported living, in non-licensed residential facilities. All of these rules are written by the DODD and are promulgated in the Ohio Administrative Code.

Table 2: Supported Living Services Regulations

DODD	• Ohio Administrative Code **5123:2-9-28:** *HCBS-nutrition services under the individual options waiver* • Ohio Administrative Code **5123:2-9-29***: HCBS- home-delivered meals under the individual options and level one waivers* • Ohio Administrative Code **5123:2-9-53:** *HCBS- home-delivered meals under the transitions developmental disabilities waiver*

Ohio Administrative Code (OAC) 5123:2-9-28 sets forth the regulations for seeking services from a registered dietician, but only applies to individuals receiving an individual options waiver. Services covered by this rule include nutrition education, nutrition counseling, nutritional assessments, and writing texture modification plans. OAC 5123:2-9-29 and OAC 5123:2-9-53 outline the process of receiving home-delivered meals on the individual options, level one, and transitions developmental disabilities waivers. Home delivered meals through HCBS waivers must be approved by a dietitian and meet one-third of recommended dietary allowances. None of the rules set forth any blanket dietary guidelines or nutritional standards providers must follow like ICFs.

OAC 5123:2-2-06 ***Behavioral support strategies that include restrictive measures.*** This rule describes behavioral support strategies that apply to both supported living and ICFs. It states that providers are not allowed to restrict an individual's food or beverage consumption, except if there is a risk of harm or the individual is likely to have a legal sanction placed on them. This is intended to help residents live the most independent life possible and to give resident control over their diets and bodies.

Agency Specific Background

Finding a community partner willing to host the project was a crucial step in executing the project. The researcher used the DODD's provider search tool on the DODD's website to find residential service providers who provide supported living services in Franklin County. After finding a list of providers, the researcher reviewed the provider agency's website to see if they offered other residential services, such as ICFs. If the agency provided services in multiple settings in Franklin County, the researcher sent the agency an email explaining the nature of the project and asked if they would be interested in learning more about the project. Only one provider responded to the email, Franklin County Residential Services. In May 2015 the researcher met with an agency representative to further explain the project and what would be needed from the agency, and answer any questions the agency had. Franklin County Residential Services agreed to host the project and helped set up meetings with two additional managers, one who managed an ICF and one who managed the all supported living services. Input from these managers, as well as previous research provided guidance for the development of data collection tools.

This section is intended to give an understanding of the training and resources staff working in both settings receives as part of the Franklin County Residential Services team. The following information is derived from the interview with Franklin County Residential Services' dietitian (B. Thurn, personal communication, 2015).

Staff Training

When a new staff member is hired, he or she must complete a myriad of trainings to become certified to work in the field. Trainings can be mandated by the state, county, or agency and include topics such as agency policy and procedures, personal care tasks, completing paperwork (e.g., funding, incident, and accident reports). New staff training can take multiple

days and represent a significant expense in agencies' overall budget. For Franklin County Residential services, all staff from supported living services and ICFs must attend the same new member orientation about the aforementioned topics. While there are mandated trainings, variation in training depends on the other services offered by the agency (e.g., residential, day services, employment, etc). This variation may impact how prepared staff are when they begin their employment at an agency. This project did not specifically look at these variations, but should be taken into account when discussing the ability to apply this research to other agencies.

At Franklin County Residential Services, the dietician takes about 90 minutes to cover the topics during the training session. Typically, her training during staff orientation focuses on issues like food safety, proper food storage, texture modifications (e.g. pureed, chopped, cubed, thickened, etc.), choking prevention, and implementation of nutritional supports she has developed. Staff must rely on previous training and knowledge about nutrition and cooking skills, because time to cover a wide range of topics during the initial orientation is limited. When asked about the range of skills of the staff she trains, she describes the average skill level as "beginner to intermediate home cook." However, she also said that there tends to be a significant difference between men and women, with women tending to be in the "home cook" range and the men tending to be more in the "beginner" range. Not every agency providing residential services has access to a dietician or other local nutritional services, so their access to accurate nutritional information may vary. Since this study only worked with one agency, it cannot speak to how other agencies access nutritional resources or how immediate access to these resources influence the quality of food, meals, or preparedness of staff.

Any additional nutritional training a staff receives is based on the individual needs of residents. Specific nutritional needs are written into an individual's Individual Habilitation Plan

(IHP) during an initial assessment period and are amendable if medical conditions or resident's ability changes over time. A team of the individual seeking services and those closets to them write the IHPs. Every individual receiving services from Franklin County Residential Services has an IHP on file. The dietitian may help assess the nutritional needs of an individual, which includes helping residents develop diets that may be necessary because of an outstanding diagnosis (e.g., diabetes, Pica, or Prader-Willi syndrome). The dietitian also assesses the need for g- or j- tube feeds or texture modifications. Direct support staff members are trained on the IHPs of the individuals with whom they work, which include any suggestions made by the dietitian.

Nutritional Support Materials

The dietician also writes various nutritional support materials for the ICF and supported living sites. Per the Medicaid ICF *Conditions of Participation* the dietician creates the menu for residents in an ICF setting. Menus written by the Franklin County Residential Services dietitian are used in all of the ICFs under their management. The menu rotates every five weeks and is categorized into fall/winter and spring/summer. The menu is broken down by day and includes breakfast, lunch, dinner, and two snacks (one in the afternoon and one after dinner). For lunch and dinner, each meal includes portion sizes, beverage options, and substitutions for food items in case of allergies or preferences. Menus stay in rotation for about three years. After three years, each menu is completely redone. Once the five-week menu rotation ends, the cycle begins again until it is time to move into a new season category. A picture of one week of meals from the menu can be found in Appendix 1. Each ICF apartment receives a corresponding cookbook and grocery list written by the dietician detailing the ingredients needed and how to prepare the dishes listed on the menu.

Every meal on the menu needs to meet the "latest edition of the recommended dietary allowances of the Food and Nutrition Board of the National Research Council, National Academy of Sciences adjusted for age, sex, disability, and activity" (CFR 483.480 (a), no page number). All menus should offer food from each food group, be different each day, and use seasonal ingredients (CFR 483.480(c)). Using seasonal produce helps the homes use the freshest fruits and vegetables and ensures the ingredients on the menu are in stock at the grocery store. When Franklin County Residential Service's dietician writes the menus, she takes inspiration from general food trends in restaurants and discussions with staff and clients as guides for general taste preferences of the residents. When clients strongly dislike a food item, she finds that in most cases it is not because the person dislikes the food item, but because clients may have difficulty chewing or digesting the food item. She also takes into consideration that as the majority of ICF clients age, their caloric needs decrease because they are not expending the amount of calories they used when they were younger, which is reflected in the menus.

The dietitian also developed a breakfast and snack selection tool to give residents choice in their food environment. Image one and two are pictures of the breakfast selection tool. Each page in the book has a different breakfast residents can chose from, and includes the amount of food so staff can appropriately portion food. Image three is a picture of the snack selection tool staff and residents can use. Residents can choose one of the options on the sheet for one of the two snacks built into the daily schedule. The implementation of these tools varies and largely depends on the dedication of support staff to using them (B. Thurn, personal communication, 2015).

Image 1 and 2: Breakfast Selection Tool

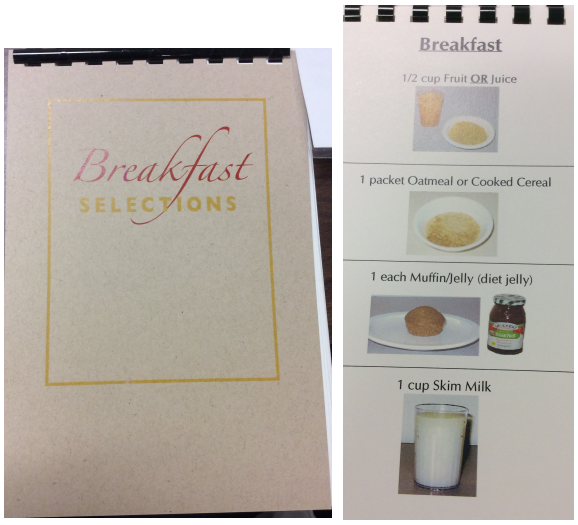
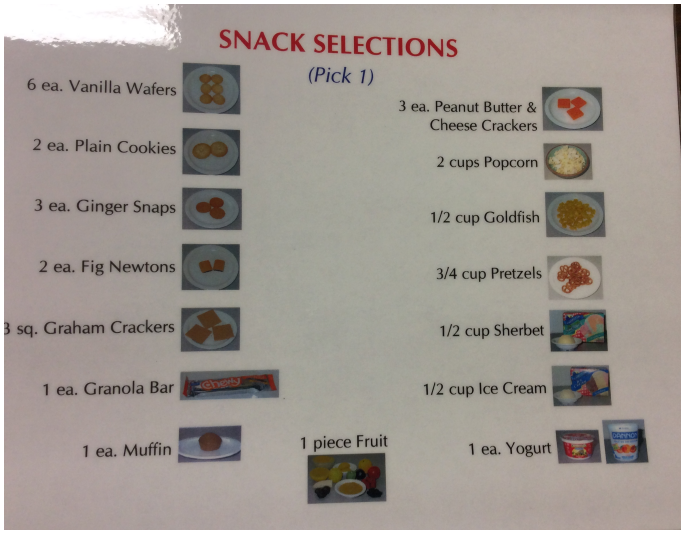


Image 3: Snack Selection Tool



The role of the dietician in supported living is very limited and any resources developed at the supported living level tend to be designed for the needs of one specific client or apartment. The majority of her work in supported living is to ensure staff feel comfortable with texture modifications and other specific dietary requirements and developing supports for texture modifications when necessary. At one point she developed food guides for some individuals in supported living, but usage remained low. The high turnover rate of direct support staff at the agency makes it difficult to keep continuously using these types of materials.

To summarize: ICFs are funded through the DODD, follow rules written by Medicaid and the DODD, tend to serve individuals with more intense behavioral and medical needs, and have strict regulations and standards when it comes to the food environment offered to residents. Supported living services are paid for through county or state HCBS waivers, rules and regulations are written by the DODD, and have minimal regulations when it comes to an individual's food environment. All staff in both settings at Franklin County Residential Services receive a 90-minuet training from the dietitian, but there often isn't enough time to teach staff

about basic human nutrition and food preparation skills. The above information is helpful to create a frame of reference to better understand how the data collection tools and their results answer the research questions. The following sections details the logistics of the research project, the results, and discusses the implications the results may have on the disability services sector.

Methodology

Five different data collection tools were designed by the researcher to answer the three research questions. Data collection tools include resident interviews, mealtime observations, surveys of support staff, and interviews of a registered dietitian and housing policy expert.

Data Collection Tools

Resident Interviews. To ensure the "person" segment of person-in-environment perspective, including residents was crucial. Residents were asked a series of questions designed to gain a resident perspective on their food environment. Interviews were informal and open ended to allow resident to feel comfortable and direct the majority of the conversations. A copy of the interview guide can be found as Appendix 2.

Mealtime Observations. An observation tool was developed to describe the food that was served in each setting, how the food was served, and the nutritional quality of the meals being served. The researcher observed four different apartments for a weeknight dinner, two of which where in an ICF and two of which were apartments receiving supported living services. A blank copy of the observation tool can be found as Appendix 3.

Staff Surveys. An electronic survey was developed using Qualtrix. The survey covered topics such as perceptions of their own cooking skills, previous cooking and nutrition training, basic nutrition information, and open-ended questions on how staffs respond to specific situations that may happen during mealtime. The researcher utilized input from Franklin County

Residential Service's dietitian and program mangers to write the survey. Since they agreed to host the project, the researcher included specific questions they were interested in knowing. Based on the answers a participant gave about their position at Franklin County Residential Services, the survey populated questions that were tailored to expectations of each job. All survey responses remained confidential and respondents were awarded a $15 online gift card to Amazon for their participation. A copy of the printed staff survey can be found in Appendix 4.

Dietitian Interview. An in-person interview was designed for the agency dietician to gain an understanding of specific agency policies regarding food and nutrition, agency training, and to know how the agency adapts to obstacles they may face in providing healthy food environments in their ICFs and in their supported living services. Information gathered from the dietitian is cited as (B. Thurn, personal communication, 2015).

Housing Policy Expert Interview. An in-person interview was designed to gain an understanding of the outside forces that influence the food and nutrition inside these environments. The individual chosen is an expert on the subject of housing for persons with IDD and the state and/or federal policies that govern housing. The interview was also used to discuss current statewide initiatives that could potentially impact IDD housing, and thus the corresponding food environments. Information gathered from the housing policy expert is cited as (A. Allen, personal communication, 2015).

Policy Review. A review of state and federal policy of rules and regulations for supported living services and ICF was completed by searching the DODD's and The Center for Medicaid and Medicare Services website for rules currently in effect. The information was used to provide a background on the set up of both settings and to provide a discussion on how the

differences in rules and regulations could influence an individual's food environment. Policy was reviewed if it specifically mentioned food, meals, nutrition services, or dietetic services.

Sampling Frame

Once the agency confirmed their participation and The Ohio State University IRB approved the study, the researcher began participant recruitment.

Resident Interviews. To participate in an interview, residents had to be able to sign an informed consent form and have a method to communicate with the researcher. Restrictions in the intermediate care facilities and lack of verbal communication skills of residents limited the feasibility of conducting a larger number of resident interviews. Interviews were only conducted in one apartment complex receiving supported living services. Upon arrival at the home, the researcher personally asked each resident present if they would like to participate in an optional informal interview.

Mealtime Observations. During the initial meetings with the managers of the ICF and supported living programs, homes were selected for mealtime observations. The managers selected homes they believed could best handle an unknown visitor during mealtime.

Staff Surveys. To recruit staff survey participants direct support staff members and managers, the researcher developed a letter explaining the nature of the study, incentives, and included a URL to the online survey. Anyone with access to the link could take the survey. For supported living, about half of the support staff (50 individuals) received the letter through their email via the agency's supported living listserv. The letter is included in Appendix 5 In the ICF settings, the research team had a more difficult time recruiting participants. Originally the research team intended to send out emails to ICF staff members, but learned the ICF didn't have an email listserv. The letter and link were sent through CareTracker, an electronic case notes

manager program, to all the staff. Printed copies of the letter were also placed in communication logs for staff. This method resulted in zero staff survey participants. The researcher then printed paper copies of the consent form, survey, and incentive survey were placed in every staff member's mailbox. Staff was instructed to turn in each section of the survey in to a designated envelope by the mailboxes. The research team created three different envelopes for consent forms, surveys, and incentive surveys to protect the confidentiality of the staff and to make sure names could not be traced to staff members' responses. After a week, the researcher collected the envelopes and the completed surveys.

Professional Interviews. For both of the interviews of the housing policy experts and the staff dietitian, the researcher personally invited the participants to participate in the study. After attaining IRB approval, the research team asked the individuals if they would like to participate by phone or email.

Results

Sample Characteristics

Resident Interviews. To gain a more in-depth look at how individual residents make choices around his or her food environment, the researcher interviewed three residents (n=3) receiving supported living services from Franklin County Residential Services. To protect the identity of the residents, minimal demographics were collected at the time of the interviews. Table one displays the demographics that were collected. All three (100%) of the residents were male, over 40 years old, and receiving supported living services in the same apartment complex.

Staff Surveys. Between the months of December 2015 and February 2016, 21 staff members completed the self-administered survey online or on a paper copy (see Table 1 for Sample Characteristics). This included seven individuals (33.33%) who worked in the ICF, and

fourteen individuals (66.67%) who provide supported living services in an individual's homes. The sample was fairly evenly distributed between males (n=9) and females (n=9), with two people identifying in another way. An overwhelming majority of participants worked for over one year (90.48%), while just one person worked between seven months and one year. All of the staff who completed a survey were older than 30, with six (29%) between 31 and 40 years old, five (24%) between 41 and 50 years old, six (29%) between 51 and 60 years old, and four (19%) over 61 years old. When asked about birth country, 17 staff members (80%) responded they were born in the United States, 2 staff members (10%) responded they were born in Ghana, and 2 staff members (10%) responded they were born in Sierra Leon.

Professional Interviews. Two professionals (n=2) working in the IDD field were interviewed to gain a better understanding of the potential mezzo and macro influences on an individual with IDD's food environment. One interviewee (50%) works as a registered dietitian with Franklin County Residential Services and one interviewee (50%) works as an IDD housing policy expert at Ohio Providers Resource Association, a non-profit that focuses on IDD policy issues. Both interviewees were women (100%) and have been in the field for over twenty years. Table three: Human Sample Characteristics details the demographics from the resident interview, staff survey, and the professional interviews.

Table 3: Human Sample Characteristics

		n	***%***
Resident Interviews (n=3)	*Setting:* Supported Living: ICF:	 3 0	 100 0

	Age:		
	40+:	3	100
	Sex:		
	Male:	3	100
	Female:	0	0
Staff Surveys (N=21)	*Gender:*		
	Male:	9	45
	Female:	9	45
	Other:	2	10
	Location of employment:		
	ICF:	7	33
	Supported Living:	14	67
	Staff Position:		
	Direct Support Professional:	15	71
	Manager:	6	29
	Length of time at agency:		
	7months-1 year:	1	5
	>1year:	19	95
	Age:		
	18-30:	0	0
	31-40:	6	29
	41-50:	5	24
	51-60:	6	29
	61+:	4	19
	Birth Country:		
	United States:	17	80
	Sierra Leon:	2	10
	Ghana:	2	10
Professional Interviews (n=2)	*Occupation:*		
	Registered Dietician:	1	50
	IDD Housing Policy Expert:	1	50
	Sex:		
	Female:	2	100
	Male:	0	0
	Time in the Field:		
	<20 Years:	0	0
	>20 Years:	2	100

Mealtime Observations. To see what types of food is being served in both settings, the research team observed four (n=4) dinners in homes receiving supported living services and in ICFs. Refer to Table four for a breakdown of the observations. Each visit was at a different apartment or home, thus all four observations were of different staff and residents.

Table 4: Mealtime Observations Sample Characteristics

Mealtime Observations (n=4)	*Setting:*	***n***	***%***
	Supported Living:	2	50
	ICF:	2	50

Policy Review. For the policy review, the research team reviewed seven (n=7) different state and federal regulations and policies that either pertained directly to access to food. Three articles (43%) pertained to ICFs, three pertained (43%) to Home and Community Based waivers used to pay for supported living services, and one (14%) pertained to all settings governed by the Department of Developmental Disabilities. This review include one (14%) federal regulation or policy and six (86%) state regulations or policies. Policies and regulations in red denote a federal policy or regulation. Policies and regulations in black denote a state policy or regulation. Table five: Policy Review Sample Characteristics includes the breakdown of the reviewed state and federal policies.

Table 5: Policy Review Sample Characteristics

Policy Review (n=7)	Just ICF (n=3)	• 42 CFR (Code of Federal Regulations) **483.480,** *Subpart I - Conditions of Participation for ICF-IDD* • Ohio Administrative Code **5123:2-3-12***: Food, Clothing and Personal Items* • Ohio Administrative Code ***5123:2-3-04:*** *Licensed Residential Facilities-Provisions of Services and maintenance of Service Records*
	Just Supported Living (n=3)	• Ohio Administrative Code **5123:2-9-28:** *Home and Community-Based Services Waivers (HCBS) -nutrition services under the individual options waiver* • Ohio Administrative Code **5123:2-9-29***: HCBS- home-delivered meals under the individual options and level one waivers*

		• Ohio Administrative Code **5123:2-9-53:** *HCBS- home-delivered meals under the transitions developmental disabilities waiver*
	Both Settings	• Ohio Administrative Code **5123:2-2-06:** *behavioral support strategies that include restrictive measures*

Resident Interviews

Part of the mealtime observations included interviews of residents to understand the dynamic of how meals are organized in the homes. Three interviews were conducted in one home receiving supported living services. The specific home where the three interviews were conducted is a building of four separate apartments. Each resident has his or her own apartment with a bathroom, kitchen, dining area, bedroom, and living area. All four residents receive supported living services from Franklin County Residential Services and share support staff, with one support staff present at all times when residents are at home. Only three residents were present during the observation and the interview. All three residents were able to communicate on their own. The three interview participants are relatively independent; they did not need assistance walking, communicating, or eating, but did need some assistance preparing meals. Supported living services vary significantly and are set up based on the needs of the residents who live there. Daily logistics and operations vary between homes and between residents.

The interviews took place during mealtime observation. On the night the researcher came to observe and talk with the residents, the residents were having a Tuesday night group dinner. Upon arrival at the apartment complex, the researcher assessed the communication level of the individuals. The researcher asked the residents whether they wanted to participate in the interview process; the three residents agreed to participate. The researcher determined it would be efficient and effective to interview all three residents at the same time, similar to a small focus group. After each question, each resident was given an opportunity to respond. After finishing

dinner, the house manager sat down with the researcher and supplemented residents' responses with additional information about the role staff have in the specific apartment. The following sections examine the responses from the interview questions and then transition into a discussion about common themes that emerged from the responses from all three residents and their house manager.

The first question related to residents' decision-making process about what they were going to eat. Residents said they often decide what they are going to eat based on what they had on their grocery list from the previous week. Every week each resident writes their own grocery list with the items they want to eat for the following week. When thinking about what food items to put on their grocery lists, two of the three residents agreed an important factor on what they write on their grocery list is medical diagnoses. One residents shared he has diabetes and another shared he has Gastroesophageal reflux disease (GERD), both of which the symptoms are managed by diet. Both of these residents expressed they were committed to managing their diagnosis and that buying healthy food helped them do so. The third resident proudly told the researcher before he moved to the apartment he was overweight, and with staff encouragement and support of a healthy diet, he has lost a significant amount of weight. Including healthy food options on his grocery list helped him lose weight and maintain this weight loss.

When asked what food items are typically included on the grocery list, the residents said that since they each make their own list, it depends on the resident. Most of the grocery list is the same each week, with a majority of the list including staple items like bread, milk, salad, and eggs, but new items get added each week as a resident wants something new. Before a staff member takes a resident to purchase groceries, the residents in the apartment sit down together and find sales and coupons. When they go to the grocery store and see certain items like meat on

sale, staff encourages residents to stockpile and freeze the meat in their freezer. All of the residents have a limited food budget and try to save as much as possible when it comes to grocery shopping. On grocery shopping day, a staff member drives a resident over to their local Kroger and they shop for the items on the list together. Each resident in the apartment complex has a different level of independence and therefore the intensity of grocery shopping support varies between residents. At two different times in our conversations, residents mentioned how when their staff complimented them on their efforts to eat healthy and buy healthy groceries. The compliments made them feel good and helped them continue adhering to their diet.

Throughout the week residents choose what they want to eat and staff help prepare the meals, encouraging the residents to do as much as possible independently. Every Tuesday night, the three interviewees come together and share a meal in one of the apartments. Residents take turns hosting, where they must plan and purchase the meal, prepare it, and then everyone eats in the host's apartment. For the three interviewees, Tuesday night dinner is an opportunity to feel like a family.

During the Tuesday dinner the researcher observed, the support staff did not sit with the residents because the researcher took the final chair at the dinner table. The researcher asked if it was normal for the staff to not sit with them. Residents said it depends on the staff, the day, and what other duties the staff need to fulfill. They all agreed that they really love when their staff sits with them at the dinner table, because it adds to the feeling of family. None of the residents expressed discomfort with any of their support staff or their house manager.

Once dinner and the interviews ended, the house manager sat down with the research and offered additional information. She explained that most of her staff at this house has worked at the agency for over 10 years and there is very little turnover at this specific house. This is

important because the residents don't have to worry about continuously having new staff rotating through the door. Staff and residents know each other well and feel comfortable working with each other. Her staff understands how to build solid relationships with residents and they recognize the importance of their role in residents' lives. As a house manger she is continuously reminding her staff how this role can be utilized to encourage healthy behaviors, especially when it comes to eating. Compared to the other homes where she has worked, this group of residents is relatively independent, but still need reminders on why it's important to manage their diet. Overall the residents respond well to the reminders and generally appreciate them.

Reminding residents to maintain their diet is just one of her staff's duties when they take a resident grocery shopping. One of the other key responsibilities her staff have at the grocery store is helping residents choose the right quantity of a food item for the week. The staff are help residents think through the process of buy enough food to get through the week and not buying too much food. This helps residents not spend their money on excess food that may spoil before they have a chance to eat it.

One of the most surprising comments the house manger had regarded the resident's decreasing ability to find coupons. All of the residents shop at Kroger, and since Kroger has moved toward online digital ads linked to a resident's shopper card, coupon clipping and saving money has become increasingly difficult. None of the residents have Wi-Fi or Internet access, so the house manager goes to the central office (roughly a 20 minute drive from the apartment) and loads the coupons to the residents' shoppers cards. She expressed some concern over this trend because it takes some of the independence away from residents and makes them dependent on the house manager having the time to go into the office and load the coupons onto their cards.

Resident Interview Themes

After concluding the interview/focus group and reviewing notes from the conversations, three key themes emerged as crucial factors for fostering an environment that is conducive to healthy eating: 1) individualization, 2) staff involvement, and 3) independence. The success of a resident maintaining a healthy diet and valuing its benefits really depend on the presence of these three factors interacting with each other.

Individualization. For the residents, individualization guarantees that their needs are appropriately met. As mentioned earlier, two residents have medical conditions that require specific dietary needs, and individualization helps to ensure meals fit within their needs. When it comes to mealtime and its associated activities, most of the activities are planned and completed on a personalized basis. Grocery list writing, grocery shopping, meal planning, and meal preparation all happen between a staff and a resident. The individualization helps staff and residents work together to foster the growth of skills that lead to residents' independence.

Staff Involvement The role of support staff in supported living food environments is crucial**.** Support staff members are not intended to be stand-in parents. Support staff members are present to promote resident independence, which includes empowering residents to be healthy to maintain their independence. Staff members working in this apartment are very keen on the effects poor diet can have on residents and their independence. They have to be able to adjust to the different levels of support needed by each resident. At this specific apartment that also means adjusting to the needs of four individuals at one time. If a staff member doesn't know how to prepare healthy meals, know the healthy options at the store, or know how to budget or save money at the grocery store, it is difficult for staff to foster the growth of those specific skills and knowledge in residents. The residents at the apartment genuinely appreciate their staff's praises during food purchasing, meal planning, and consumption and the reminders of the importance on

eating healthy. It can be difficult for residents to maintain a healthy diet and lifestyle without this encouragement from their staff.

Independence. Supported living is centered around the idea of giving individuals with intellectual and developmental disabilities the best chance at living an independent life (Ohio Department of Developmental Disabilities, 2015b). This independence hinges on the degree of individualization and staff involvement. When residents get the support they need that is specific to their ability level, whether it is during meal planning, shopping, cooking, or any other aspect of their life, fostering resident independence is possible.

Mealtime Observations

The goal of mealtime observations was to gain a basic understanding of the logistics of meals in both settings. Observations gave researchers insight about what types of food is served in both settings and how resident needs are met. Table six is a side-by-side comparison of the observations in four different apartments, two in the ICF setting and two in homes receiving supported living services. Between February and March of 2016, two homes receiving supported living services and two apartments at an ICF were observed. Upon arrival at each setting for observations, the researcher explained the nature of the research to staff and residents and explained that if they all felt comfortable the researcher would like to take notes on an iPad to record what they saw. As dinner was served and eaten, the research team sat at the dinner table with residents and staff and took part in the group conversation.

Table 6 Mealtime Observations Side-by-Side Comparison

	Intermediate Care Facilities		Supported Living	
	Observation 1	Observation 2	Observation 3	Observation 4
What is being served?	Rotini and meat sauce with ground beef Canned Green beans Canned peaches	Meatloaf Mashed potatoes and gravy Green beans Cinnamon Apple sauce	Pork shoulder roast Pre-made Kroger salad (iceberg lettuce, red onions and carrots) with light blue cheese dressing Pre-made croissant rolls Microwaveable broccoli with cheese sauce	Spaghetti with meatballs in a red tomato sauce. Mixed veggies with seasoning. Rainbow Sherbet.

How is meal served?	Drinks and cups were already set out for the residents. Staff set dishes on the counter next to food and portioned the food on residents plate (did not measure the amount of food). Food was kept on the stove.	The apartment was short staffed on the day that I observed. Because of this, the staff could only feed one resident at a time, and two residents needed assistance eating. The food was pre-dished in plates.	Staff dished out the food to the residents. One resident prepared salad for the other residents	The food was portioned out on plates for the residents (see picture). Staff said this is how food is typically served. Staff said this allows them control portion size.
Are seconds offered?	Seconds were offered and served to residents who wanted them.	No, none were requested	Yes. Residents were given seconds when they asked for them.	No, none were requested
Is dessert offered?	Yes. Canned peaches	Yes, applesauce	No	Yes, rainbow sherbet
Beverages available:	Water and orange soda	Pink lemonade, one resident had real fruit juice because needed thickening agent	Orange flavored sparkling water, water bottles, and tap water.	Water. One resident has a swallowing disorder where they required thickening agents in liquids.
Are staff sitting at the table?	Yes, one resident needed assistance eating	Yes, two residents needed assistance eating.	No. Research team took the final chair; residents say staff normally sits at table on Tuesday nights.	Yes, both residents needed assistance eating.
Are staff eating with the resident?	No.	No.	No, staff said he recently ate a sandwich.	No.
Does staff give prompts to residents?	Yes. Told residents to slow down when eating (decrease choking) and gave direction to blind resident about where each food was located in his plate.	Yes. Staff reminded residents to eat slowly so they didn't chock.	Yes. Staff prompted one individual to make sure he took small bites and didn't stuff his face. When residents were done eating there was no forcing to finish the food if there was food left on the plate.	Yes. Staff offered verbal cues, but since the residents were deaf, they used physical cues by touching residents hands to signal to the resident they needed to slow down their eating (eating too much food in one bite or too quickly could lead to choking) and to guide residents to where the food was on the plate.
How was meal prepared?	Canned fruit Pasta was made from a box with pre-made red sauce. Green beans were heated from a can	Meatloaf was prepared by third shift (staff said this was typical procedure in the apartment) Unsure how sides were made Apple sauce was premade	Meat was already prepared by the time the researcher arrived. Rolls came prepackaged and staff put them in the oven to cook. Salad was premade and one resident helped serve salad to others. Staff microwaved broccoli.	Main dishes were homemade (unsure is sauce or meatballs were homemade). Sherbet was store bought.

Through observation of what food was served, the researcher did not find much difference between the two settings. For all four meals the direct support staff members were in charge of serving the meal and offered some form of prompting to residents while residents were eating. At both ICF's all of the individuals sat at the dinner table together, staff served the food and extras were kept in the kitchen (i.e., off the dinner table). The research team was not present for the preparation of the meals (some were prepared the night before), but asked the staff about how meals were prepared and the types of ingredients used. As part of the Medicaid *Conditions*

of Participation regulations, ICFs encouraged to prepare meals with fresh and homemade ingredients when possible, and as far as the researcher could tell almost all of the sides in observation one were premade.

For the researcher, the most surprising aspect of the observation was the level of participation support staff showed during mealtime. All of the staff present during all four observations expressed to the researcher how important it was for them to keep their residents healthy. In all but one observation where the researcher took the last seat at the table, staff sat at the table with the residents. While it was mostly to assist residents, they remained engaged with the resident he or she was helping and engaged with the other residents at the table, even if the residents were not capable engaging back. None of the residents seemed unhappy with what was being served for dinner. It is possible there was some selection bias in the settings Franklin County Residential Services, choosing settings they knew would have involved staff and healthy meals. Regardless of bias, the observations show it is possible to have supported living settings with meals of comparable quality to an ICF.

Staff Survey

Staff surveys were administered to Franklin County Residential Services direct support staff and managers in both settings. Three different surveys were tailored for the different professional positions in each setting: one for managers, one for support staff in supported living, and one for support staff in ICFs. The surveys were designed so responses could be easily compared between direct support staff and managers working in different settings and between managers and direct support workers in their managers in the same setting. The research team faced two obstacles to analyzing data in this way. First, when the survey was sent out to the supported living staff email list, the online survey had been incorrectly layered, and the direct

support staff were directed to the survey designed for managers. By taking the manger survey, the direct support staff missed a few multiple-choice questions where participants were directed to select the healthiest beverage and side dish out of three options. Second, the ICF setting had such few responses that a comparison between the two settings was not feasible. To get the most out of the data, the research team combined the answers of questions that were similar across the three different surveys. Unless otherwise noted, the data is a combination of responses from managers, supported living direct support staff, and ICF direct support staff.

Since the new staff orientation with the dietitian only lasts 90 minutes, support staff members depend on previous experiences for information on human nutrition and cooking skills. The survey questions, "Before working here, did you have any training, formal or informal, on nutrition or diet?" and "Before working here did you have any training, formal or informal, on how to properly cook food?" establish whether staff members have previous experiences. If participants answered yes to either question they were directed to an open-ended question asking them to, "Describe how you think this knowledge has impacted your time working here." The purpose of these first questions was to see how many staff members had previous knowledge about human nutrition and cooking skills they can use on the job and to see how this knowledge is valued in this work environment. Yes/No responses were tallied and responses to the open-ended questions were coded for common themes. Eleven individuals (71%) stated they had received formal or informal training on nutrition and diet, and nine individuals (53%) received formal or informal training on how to properly cook food. For those who responded yes to either question, participants associated many benefits of having knowledge on human nutrition and cooking skills. Responses are recorded below in Table seven.

Table 7 Formal and Informal Training Responses

Before working here, did you have any training, formal or informal, on nutrition or diet?			**Before working here did you have any training, formal or informal, on how to properly cook food?**	
Answer	Response	%	Response	%
Yes	11	71%	9	53%
No	5	29%	8	47%
n=	16	100%	17	100%
Common themes of opened-ended responses				
• Help clients have better diets and make healthier decisions			• Help make healthy meals to ensure the health of my clients	
• I better understand food's nutritional value			• Teach my residents how to cook and to help them become more independent	
• I am healthier so I don't have to call off sick			• I can be more creative with the food and meals I prepare residents and for myself at home	
• Be more aware of health affects of diets			• I am able to cook and handle food properly	

Following these initial questions, participants read a series of statements and responded using a 5-item Likert scale (see Table Eight). Participants read a statement and were instructed to select if they felt they strongly disagreed, disagreed, neither agreed or disagreed, agreed, or strongly agreed with the statement. Statements covered many topics related to human nutrition and cooking skills to gather information about mealtimes for individuals served by Franklin County Residential Services. Table nine displays answers to statements that were asked to all staff members who took the survey and table seven displays responses to statements that were only administered to ICF direct support staff.

Table 8. Survey Statements

Statement	**Strongly Disagree**	**Disagree**	**Neither Disagree or Agree**	**Agree**	**Strongly Agree**	***n*=**
My staff knows how to cook and I am comfortable with them cooking at work.	0	2 (12%)	0	8 (44%)	8 (44%)	18
My staff knows how to properly clean and prepare fresh produce.	0	2 (11%)	1 (6%)	6 (33%)	9 (50%)	18
My staff understand common cooking terms like broil, julienne, and blanch.	0	4 (22%)	5 (28%)	5 (28%)	4 (22%)	18

Statement	Strongly Disagree	Disagree	Neither Disagree or Agree	Agree	Strongly Agree	*n*=
My staff can easily explain how to make a meal for clients.	0	2 (11%)	3 (17%)	7 (39%)	6 (33%)	18
If my staff were confused about how to make a dish, they know of resources that could instruct them how to make the dish.	1 (6%)	3 (17%)	1 (6%)	7 (39%)	6 (33%)	18
My staff knows the difference between healthy and unhealthy meals.	0	2 (11%)	2 (11%)	5 (28%)	9 (50%)	18
It is important clients eat as healthily as possible.	0	0	0	6 (33%)	12 (66%)	18
Meals made from scratch are healthier than pre-made meals from a box.	0	0	3 (17%)	6 (33%)	9 (50%)	18
My staff knows how to read a nutrition label so they can pick the healthiest option while grocery shopping for or with my clients.	0	3 (17%)	2 (11%)	7 (39%)	6 (33%)	18
My staff regularly sits at the table with my residents.	1 (6%)	2 (11%)	4 (22%)	7 (39%)	4 (22%)	18
My staff regularly eats the same meals as the residents.	0	6 (33%)	4 (22%)	7 (39%)	1 (6%)	18
Since I started working here I have become more comfortable trying new foods.	1 (6%)	1 (6%)	8 (44%)	6 (33%)	2 (11%)	18
I have taken recipes from work and made them for my own family.	2 (11%)	1 (6%)	5 (28%)	7 (39%)	2 (11%)	17

Table 9. ICF Direct Support Staff Only

Statement	Strongly Disagree	Disagree	Neither Disagree or Agree	Agree	Strongly Agree	*n*=
Understanding nutrition is an important skill to have for this job.	0	0	0	0	3 (100%)	3
I feel supported from my superiors to cook healthy meals for my residents.	0	0	0	0	2 (100%)	2
I know how to read the weekly menu.	0	0	0	0	3 (100%)	3
It is important to follow the menu as closely as possible.	0	0	0	0	3 (100%)	3

Overall, participants felt that they and their fellow staff members had the skills needed to provide healthy and balanced meals to their clients. For statements receiving more than three responses in the “disagree” or “strongly disagree” sections, more research about the reasons why respondents answered this way could prove beneficial.

After this series of questions, the survey ended with five open-ended questions based on specific situations a direct support staff my experience. The overarching theme from the responses is the importance of having strong relationships. This applies to the manager/direct support staff relationship, the relationship between direct support staff that work in the same home/apartment, and the relationship between support staff and residents. Staff members recognize their influence with their clients and want to use it to benefit clients, but also recognized that residents have rights to accept or refuse any of the food they are presented. Again, responses were coded for common themes. Table 10 displays the questions next to the common themes from staff's given answers.

Table 10 Open-Ended Questions

Question	Common Themes from Answers
How do you encourage staff to cook healthy meals for your clients?	• Buy proper ingredients • Providing new recipes or cookbooks • Managers and support staff work and collaborate together to make healthy meals • If there is more than one direct support staff, the support staff collaborate together to make healthy meals • Encourage staff to follow the menu and use the cookbook (ICF only)
Describe any barriers you think your staff may face preventing them from making a meal from scratch.	• Staff like to be in control of their client's diet • Staff has language or cultural barrier • Resident doesn't have resources to buy healthy food (supported living) or they don't have a necessary ingredient on hand • Staff don't have enough time or knowledge to cook healthy food • Client's diet is too restrictive • Some believed there were no barriers
What do you do when a resident doesn't want to try a new food?	• Encourage resident to eat at least a few small bites • Mix the food with something they like • Make the new food sound appealing • Ask what they would prefer • A resident has a right to deny a food, we can't force them to eat certain foods

Question	Common Themes from Answers
What do you do when a resident only wants to eat junk food for all their meals?	• Encourage clients to not buy junk food • Encourage clients to buy healthier alternatives • Talk with clients about eating healthy and it's importance • Model healthy eating when working with clients • Prepare healthy meals in an attractive way
What do you do when a staff member isn't cooking "traditional American" meals for residents. For example staff cooks rice, fish, and beans instead of cereal, eggs or toast for breakfast?	• Have a conversation with the staff member • Unless the resident complains, it is not an issue • It is not a problem; clients benefit from being exposed to different cultures and foods they might not get to experience if it weren't for the staff member • Remind staff to follow menu (ICF only)

Professional Interviews

Results from initial interviews of the staff dietitian, a housing policy expert, and the Ohio Department of Developmental Disabilities website provide a background of the current context of system transitions. At the state level, many movements and events could have a potential impact on the services provided to Ohioans with IDD. As the events and movements come together, the system will test its limits. An overview of key insights from these interviews is included in this section.

Downsizing and Conversion. In 2012, the DODD initiated a statewide effort to downsize ICFs or convert the settings into residential settings for HCBS waivers. The idea behind this movement is intermediate care facilities, by their nature, segregate people with intellectual and developmental disabilities from the general community. This segregation prevents ICF residents from living lives similar to their non-disabled peers. The regulations and standards control a majority of the life decisions for the individuals who reside in an ICF. Completion of the downsizing and conversion process is scheduled for 2017 (Ohio Department of Developmental Disabilities, 2012). As of April 2016, 605 plans to downsize

have been submitted and 106 plans have been completed (Ohio Provider Resource Association, 2016).

The downsizing and conversion process is intended to streamline ICFs across the state in regards to the number individuals an ICF can serve at one time. With new regulations set fourth in the white paper, *The Future of the ICF-IID Program Values, Vision, Rebalancing & Funding* (2012), the DODD wants ICFs to shift from a campus type setting to smaller homes integrated into the community with eight beds or less. This proposed organizational structure could look similar to many supported living arrangements in regards to the location in the community and the number of staff present at any given time. Residents would live in the house and receive 24-hour support. Staff would continue providing medical and behavioral support and preparing meals for the individuals. None of the supports (e.g. nursing, dieticians, meal planning) would be removed from the package of services offered in an ICF. Franklin County Residential Service's ICF has already met the Department's downsizing wants, but this is not the case for all ICF's statewide. For agencies serving large groups of residents (i.e., 50 individuals or more), downsizing may significantly change the roles of staff surrounding mealtime. Staff roles may change from only assisting individuals eating to helping residents shop for the meal, prepare the meal, serve the meal, and continue to assist individuals when they eat. It will be the agency's duty to prepare staff for these new roles and to help staff gain the skills that come with food preparation.

As part of the downsizing and conversion process, the DODD enacted programs to move individuals from ICF's to community settings with an HCBS waiver. The DODD created an "exit waiver" specifically for individuals living in ICFs. These waivers are any of

the four HCBS waivers currently available, but instead of being funding by the county and Medicaid, they are funded by the DODD with state tax money. The DODD has a contract with CareStar, a long-term care provider in Ohio, to provide options counseling to individuals in ICFs who have been on a HCBS waiver the longest. Options counselors work with residents and their legal guardian to discuss the options they have with an HCBS waiver and if they would be interested in receiving an HCBS waiver. If an individual thinks community living with an HCBS waiver might be something they are interested, the individual's information is referred to the DODD and they begin the process of connecting the individual with a waiver aligned with their needs. When someone who isn't in an ICF is looking at residential options, a similar counseling process takes place at the county level between an individual and their legal guardians and their service and support administers. The service and support administrator gives the individual information about the various residential options available (Anderson & Howard, 2016).

HCBS Waiver Waitlist. Typically before an individual moves into his or her own home to receive supported living services from a provider, the individual secures a HCBS waiver from their county or the state. Most waivers are administered at the county level and have waitlists of varying lengths. This is largely dependent upon the amount of money a local county Board of Developmental Disabilities can raise through county levies voted on by taxpayers. It is also dependent upon the number of individuals in the county seeking services. According to Disability Rights Ohio (Borchardt, 2016) there are about 22,000 individuals currently on a waitlist for a HCBS waiver and the median wait to receive a waiver is 13 years. Roughly 2,500 of the 22,000 are in an ICF waiting to be moved onto a HCBS waiver. Historically county boards took the approach that individuals in an ICFs were

not prioritized for an HCBS waiver because they were already receiving services and had a place to live (A. Allen., personal communication, 2015). Generally, Ohio counties that include a major metropolitan area (e.g, Hamilton, Franklin, Cuyahoga, or Montgomery) have longer wait lists than rural counties because of the size of the population in these counties, but have a larger pool of income from passed levies. This system has created disparities across the state in access to HCBS waivers and thus access to services.

In the most recent Ohio state budget, for fiscal year 2016, additional waivers were funded. However, it is not enough to cover the need and still relies on counties to administer and provide for the remaining individuals on waitlists (Ohio Department of Developmental Disabilities, 2015c).

Lack of Affordable Housing and Direct Support Staff. Once an individual secures waiver funding, whether they are living in an ICF or with a family member, the individual and their team of providers must find a place for the individual to stay and find an agency to provide services. For an individual moving from an ICF who has been awarded an exit waiver, it usually takes between six and nine months for an individual to move into the community and to start receiving support living services. The open market often fails to meet the needs of individuals with IDD who have a limited budget to spend on housing. Many of the apartments and homes currently available are too expensive for individuals with IDD at market rate. Since the waiver does not cover rent, individuals are expected to pay the full price unless they can find a way to subsidize the rent. Often individuals seeking to move will need some sort of housing assistance (e.g., Section 8, rental assistance vouchers, or below market rate rental units). Some counties have private housing corporations available to offer rent assistance and/or work with landlords to negotiate

rents. Many, but not all, individuals receiving an HCBS waiver will have roommates to help share the economic burden of rent (A. Allen, personal communication, 2015).

Individuals with disabilities and their guardians are responsible for finding housing, roommates, and finding supported living providers for their home. Since the end of the recession in 2008, many providers find it increasingly difficult to hire and retain direct support staff members to provide the support to individuals (A. Allen, personal communication, 2015). Staff may feel isolated or unsupported if their supervisors are not involved. Agencies often rely on dedicated staff members to pick up overtime hours, making someone's workweek between 50 and 60 hours. These factors, among others, leave many agencies with high staff turnover and struggle to ensure all shifts covered for the residents they serve.

During the housing expert interview, Ms. Allen expressed the concern over the movement of people into community settings. While increasing HCBS waivers gives individuals access to funding, it does not ensure recipients will have access to affordable housing or the funds to pay for rent or have access to agencies with the capacity to provide services to individuals with potentially profound medical and behavioral needs.

Discussion

Because of the complex nature of the project, a significant amount of data was collected and presented. This section answers the three initial research questions and discusses the implications the research has for the residential service sector, Franklin County Residential Services, and the field of social work.

Research Question 1: **How do food environments vary between residential settings for adults with intellectual disabilities?**

This exploratory study revealed food environments in both settings is a complex list of interconnected influences. Figure Two is a visual representation of the person-in- environment framework; it is provided to guide discussion about how the influences in both settings and how they are connected to each other. The discussion on the variation across ICFs and homes receiving supported living services begins at the most central level, by looking at what food is served in both settings. In all settings, an individual's needs, abilities, and medical diagnosis are central influences on a food environment. The results from the observations offer insight into how individuals' dietary needs are met on a daily basis. Across the four observations, the meals seemed relatively comparable. All had a side of vegetables (typically from a can), only one offered soda as a beverage, and when dessert was offered, it was usually fruit. Staff in both settings rely heavily on previous education and training on human nutrition and cooking skills to provide healthy meals to residents. To staff, providing healthy meals to residents is an important part of their job, but many barriers may prevent them from doing so. In an ICF, food environments are largely dictated by federal regulations and are written by a registered dietitian. In homes receiving supported living services, food environments have no standards to meet and their nutritional quality is dependent on residents and support staff.

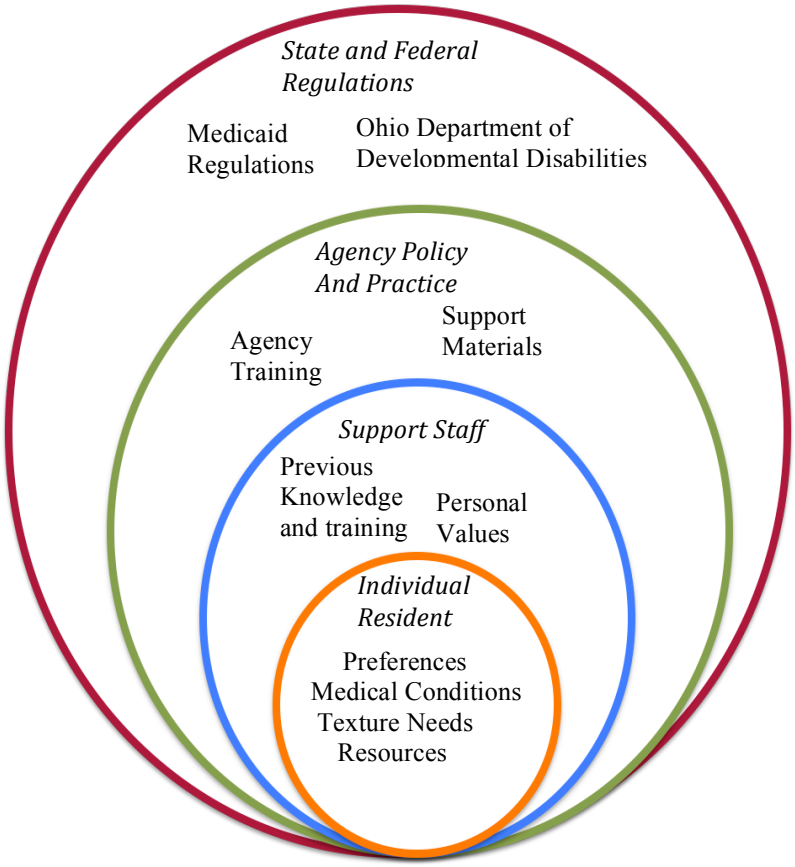


Figure two: Person In Environment Influences

Question 2: How do difference in state and federal regulations in the different settings impact meal planning?

ICFs. The *Conditions for Participation* in CFR42 states that agencies are in charge of their meal planning processes. Agencies require a registered dietician to design meals that meet standards set by Medicaid and enforced by the Ohio Department of Health. This method takes the pressure of meal planning off of the residents and the support staff. For support staff, this means they can maintain their attention on the residents. At Franklin County Residential Services, the menus come with an accompanying grocery list, which helps staff buy the correct items at the grocery store. Menus are written to ensure residents are meeting their recommended

daily intake of nutrients; they help residents control diet-related disease that are exacerbated by poor diet. Menus provide support staff members with information about appropriate portions, which can help residents regulate their weight.

However, the process in which menus are written does not always allow for resident involvement. The dietitian tries to obtain feedback from residents about meals they would like to see on the menu, but this is usually the extent of their involvement. Menus are written and submitted to Medicaid without a formal approval process from the residents. Residents do not necessarily have the opportunity to learn how to plan their own meals or how to plan a balanced diet. Menus are only written on an individualized basis if it is medically necessary, relying on the ability of support staff to make the needed accommodations.

Supported living. There are no regulations mandating any type of meal planning. Benefits of a lack of structured meal planning can provide an individual total control of his or her food environment. It allows for residents to decide what they want to eat, how much they eat, and when they eat. It also shifts the responsibility of grocery list writing, budgeting, cooking, and meal planning from the support staff to the resident. It is an opportunity to learn life skills they might not learn if they continued living with family or in an ICF.

In interviews with residents and the dietician, we found support staff members maintain a significant influence on a resident's food environment. In ICF, meal planning is done by an individual who understands the impact of diet on health, the importance of eating a variety of food, and can incorporate all food groups into a meal. When an individual is not capable of meal planning in a home receiving supported living services, meal planning falls to the support staff. Previous literature suggests that the nutrition and health of individuals living in supported living

tend to be worse than those in ICFs. Moving from highly structured setting to very loosely structured setting can negatively impact the health of the individuals (Bryan et al., 2000).

Past research has shown food environments of individuals receiving supported living settings do not always meet the nutritional needs of the individuals. The poor diet quality can lead to high rates of obesity, diabetes, and other diseases impacted by a person's diet (Bryan, et al., 2000). The observations in this study demonstrate that it is possible to have supported living settings with healthier food environments. Because the required menu must meet specific dietary guidelines, ICFs should be able to offer high-quality, healthy food environments to their residents.

This project rejected the notion that there is a nutritional difference between settings and discovered it is possible to have a relatively healthy food environment in settings receiving supported living services, but it takes staff who are informed and committed to helping their residents eat healthily and have the skills to encourage their residents to want to eat healthy.

Research Question 3: What is the potential impact for the contemporary movement to move clients moving from an ICF to supported living on their food environments?

As the disability residential services sector continues to change, there will be more discussion about how these changes impact the lives of the residents the system provides services. One of these discussions will be how supported living is able to keep individuals moving from ICFs from returning to an ICF. During the professional interviews, the participants expressed concern over the current movement at the state level to move individuals from ICFs into the community to receive supported living services. For many individuals with IDD, community living allows for maximum independence, and the services available with a HCBS waiver meet the entirety of their needs. For other individuals who may have more complex

behavioral or medical needs, the scope of an HCBS waiver may not provide enough services to cover their needs.

Both of the interviewees said this is their main concern for moving individuals from ICFs into the community. The dietician has served multiple individuals who moved into the community from an ICF. She found that with aging clients, health deterioration was impacted by a significantly less healthy and structured diet, and those clients often had needs that could not be provided in the community. In these cases, clients moved back into an ICF. During one of the ICF observations, two out of the four residents in the apartment had moved into the community, found community living couldn't meet their needs, and returned back to the ICF. Once back in an ICF, the nurses and dieticians are able to provide healthcare coordination and help the client maintain their health. The shortage of housing and staff will only exacerbate this issue. Without places for individuals to live in the community and staff to support them, individuals with IDD will have few options for residential services.

Recommendations and Future Directions

Whether the residential sector is prepared or not, it appears the system is moving towards a system reliant on supported living services; it is imperative that professionals are prepared for this transition. Based on this research, several suggestions for the residential service sector are provided to ensure this transition is smooth and can help create healthy food environments in the community.

Recommendation One. First we need to understand the commonality of the barriers staff experience in preparing healthy meals that were gathered in the study and if there are other barriers not listed. Barriers include 1) staff like to be in control of their client's diet, 2) some staff have language or cultural barrier, 3) a resident doesn't have resources to buy healthy food

(supported living) or t don't have a necessary ingredient on hand, 4) some staff don't have enough time or knowledge to cook healthy food, and a 5) client's diet may be too restrictive. Because this research was only conducted in an urban area, this list does not include barriers individuals may face if they live in more rural parts of the state. Studying regional or geographical barriers and their impact on access to food could expose more barriers to healthy food environments for individuals with IDD. Questions for future research include: 1) For residents who live in rural areas and may live in an area where grocery stores are far away from an individual's residency, what is the impact of living in a food desert on the quality of an individual's food environment? 2) If it takes a staff member 30 minutes to drive a resident to a grocery store, how does influence when and how often a resident can go to the store?

Recommendation Two. The second recommendation is to give support staff access to training and knowledge about how to cook and prepare healthy meals and training on human nutrition. Staff survey participants who answered that before working at Franklin County Residential Services they received formal or informal training on human nutrition or cooking, all of their responses indicated positive effects. The overwhelmingly positive effects of having knowledge on human nutrition and cooking skills should be used as support for increased access to trainings on these topics that will eventually benefit their clients. If a support staff person does not know how to cook healthy meals for him or herself, it is hard to expect them to be able to cook a healthy meal for a client. If staff does not understand the impact of their food choices on their own bodies, it is hard to expect them to be able to explain the connection between food and health of their residents. There are some programs, like MenuAIDDS (Humphries et al., 2007) designed to help teach support staff how to cook and portion food correctly in a group home, but doesn't account for barriers like staff language or cultural differences, a client's lack of access to

healthy food, or a resident's restrictive diet. These programs and similar ones are not always an option for all agencies. Agencies need to have the funds to purchase the curriculum and teach it to their staff, and staff members need to have the initiative to commit to the program. Finding practical, cost effective ways to overcome these barriers is a crucial step to meeting the dietary needs of individuals across all settings and is just one step in ensuring that individuals moving from ICFs into the community can stay in the community.

Recommendation Three. As individuals move from a highly-managed setting where meals have been planned for residents for as long as 20 years, make sure needed additional supports are in place to ensure residents have the tools to maintain their health. Many ICF residents have relied on their staff to make a majority of their decisions for them, have had their meals prepared for them since they moved in, and had a trained professional plan their meals. As an individual moves to a setting where this is no longer the case, we need to offer opportunities to individuals to learn these skills.

Recommendations for Franklin County Residential Services

If Franklin County Residential Services is interested in providing training for staff around mealtime, using the statements with a high number of responses in the "disagree" or "strongly disagree" category could be a guide on potential topics. Distributions of three statements are discussed below.

Statement One: If my staff were confused about how to make a dish, they know of resources that could instruct them how to make the dish. While this question has a pretty high response rate of 72% (n=13) of respondents agreeing or strongly agreeing that their staff knows where to go to find resources, 28% (n=5) do not think their fellow staff know about helpful resources. These results showed staff did not know where to find resources, so it may be

a concern if clients also cannot access these resources. Franklin County Residential Services should make sure staff have resources to learn new dishes so that resident have the option to eat a variety of dishes. It can also ensure that when a resident makes a specific meal request, staff members have the information on how to make the meal.

Statement Two and Three: My staff understand common cooking terms like broil, julienne, and blanch and my staff can easily explain how to make a meal for clients. When creating the statement "my staff understand common cooking terms like broil, julienne, and blanch", the researcher intentionally chose cooking terms that were slightly less common than chop, fry, or bake. The researcher wanted terms that required a slightly higher knowledge of cooking terms, but still common enough a support staff might read them in a cookbook or recipe online. While 72% (n=13) of respondents agreed or strongly agreed their fellow staff could explain how to make a dish, only 50% (n=9) agreed or strongly agreed they understood slightly less common cooking terms. Part of explaining how to make a meal to a client includes using the correct cooking terminology. If respondents believed their fellow staff could explain how to make meals, the researcher would expect the gap between the two numbers to be less than 22%.

Limitations

As with any study, some limitations exist. These are described below.

Mealtime Observations

Mealtime observations were not designed to collect data that would be generalized. The purpose of them was to gain an insight on the similarities and differences between each setting at the most basic level. If the data would be used to make generalizations about the settings, there are limitations.

First, there is a potential for selection bias when the managers of the supported living and ICF programs arrange the observations. Both managers of each program selected apartments for observations based on the openness of residents to visitors. It is possible that the managers chose homes they knew would be preparing healthier meals. It is also possible that they thought the staff and residents would prepare meals healthier if they knew someone was coming to observe. However, at two of the observations the researcher showed up at the apartments and the support staff at the house did not know the research was coming. Their meals were already prepared and thus did not have a chance for my presence to influence meal planning.

Second, mealtime observations are limited in their generalizability because there were only four. This is only a small fraction of the settings Franklin County Residential Services provides services and is an even small fraction of homes receiving supported living services across Ohio. What was observed in the different apartments across both settings may not be generalizable to the rest of the apartments or homes. Since each observation took place once in each setting, it is possible that the day observed was a particularly healthy or unhealthy meal.

For supported living, it is difficult to make anything generalizable unless there is a truly representative sample from every county in the state. Most individuals living in the community receive waiver funding to pay an agency for support staff. In Ohio, each county administers waivers, and although waiver services are supposed to be the same throughout the state, there tends to be vast differences between counties. Because of this and because supported living is meant to be tailored to the needs and wants of the individuals, supported living services may look different across the state. It is possible that the information could pertain to other supported living homes, but the information was not gathered over a representative sample and thus cannot be statistically generalizable to the state. Future research may be interested in looking at how

variation in the set up of supported living influences the nutritional quality of food served, as this was not a topic of the current research.

Staff Survey

The staff survey sample had 21 submissions, which was less than anticipated. Additionally, the survey respondents were limited to five from the ICFs. This small sample and sub-sample sizes limited the ability to compare survey responses from two types of facilities. In supported living, the online version was only sent to half of the staff because the agency's email list serve was incomplete at the time of the data collection process. While many steps were taken to ensure online survey participant's answers were not traceable to their email, some potential participants may not have understood the steps the researcher took this and may have been concerned about who would see their answers. Part of the low response rate could also possibly be explained by the reliance on access to electronics and Internet. The researcher assumed staff would at least have a smart phone with Wi-Fi capability or data services so participants could complete the survey. After talking with some of the staff during mealtime observations, the researcher realized that is not necessarily true. There also is not Internet in all of the homes Franklin County Residential Services provides supported living services in and so participants needed to find access to the Internet to access the survey outside of the homes where they provide services.

Electronic literacy is not a skill needed to be a support staff in supported living and could be a factor in low participation. During the data collection process, Franklin County Residential Services used paper case notes and communication logs between staff members. When talking to a staff member who disclosed she had taken the survey, the staff member said she had a difficult time with the survey because she could not figure out how to access her Amazon gift card.

Though the researcher thought the process was relatively simple and explained the process of claiming the incentive in the survey, it is now apparent this may have been an unanticipated limitation.

When the survey was sent out to the staff of the ICF, the lack of any responses forced the research team to find a new way to engage the staff at the home. After creating paper versions of the survey and distributed to all staff members, the researcher thought the response rate would increase by eliminating the barriers caused by the reliance on technology. Even with giving each staff member a copy of the study, the response rate remained low. The researcher is not sure why the response rate did not significantly increase. A possible explanation could be that the paper survey had the incentive survey and consent form attached to the survey, and even with the separate places to return each section of the packet, potential participants might have felt that it would be easy for the researchers to link responses to a participant's name. Some of the demographic questions may have also caused some discomfort for some participants, even thought it was stated in the directions participants could skip questions if they caused felt discomfort. It was not feasible for the researcher to administer all of the surveys due to time and spatial arrangements at the facilities.

Professional Interviews

The goal of the interview with the policy expert was to find out what kinds of state and federal movements are currently underway that would impact housing and food environments for individual with developmental and intellectual disabilities. The interviewee provided unbiased data on the specifics of the ongoing transformations and events that are hurting or helping the transformation process. Her opinions are biased in favor of private providers, but her opinions may not be held across the private provider field. She communicates with providers on a regular

basis across Ohio about their feelings on many different processes, including food environments and larger state initiatives. Her opinions may be a little more generalizable than someone representing only one provider.

The goal of the dietitian interview was to understand specific agency policy and practice in preparing staff to be in resident's homes and to get her perspective on the housing changes happening at the state level. Since she is in charge of creating and teaching agency policy and practice, her information is generalizable to the staff at her agency. However, her point of view about the changing housing environment and how she sees that impacting resident's food environment is only representative for her. Since the study does not have a way to statistically show her opinions are standard in the field, her feelings and opinions are not generalizable to other dietitians in the field, Franklin County Residential, or even other staff at the agency.

Additional Limitations

The researcher designed the study to minimize limitations with in their control, but limitations still exist. The main limitations to generalizability for the five data collection methods include size of the study, location of the study, and the use of only one agency for the study. The study used one provider, of large size, in the capital city of Ohio. Being a large city allows the agency to have full access to resources that are not necessarily readily available in rural areas. Expanding this research in the future would allow the researcher to see if access to these resources has any influence on food environments. The policy and regulation information can be applied to all residential service providers in the state, because they apply to everyone in the state.

Implications for Social Work

Ohio Administrative Code 5123:2-2-06: *Behavioral support strategies that include restrictive measures* is an important rule for social workers to understand. This rule emphasizes the rights of individuals with IDD and can give the individuals social workers serve a level of independence they may have never experienced. However, both of the professionals interviewed expressed concern over this rule regarding the implications this could have on the health of the individuals they serve (A. Allen, personal communication)(B. Thurn, personal communication). For some individuals who may have complex medical needs or medication interactions, adhering to a regulated diet can be beneficial and medically necessary. If an individual chooses to eat unhealthily against a medical professional's advice, the provider does not have a legal right to restrict that individual's choices. It brings up the question about when it is acceptable for support staff to intervene on behalf of an individual who may not have a full understanding how their diets affect their bodies, health, and ultimately their independence. Helping residents capitalize on their independence yet staying healthy and safe is going to be an increasing challenge. As a social worker, empowering residents to live a healthy life and empowering support staff to encourage healthy diets will be a central role.

As the system transitions, all parties involved need to prepared for the change. During the shift from ICFs to supported living, social workers writing service plans for residents are in a position to talk about how new independence can be harnessed to have a healthy lifestyle. Since the field is almost fully funded by Medicaid, social workers need to navigate Medicaid's devotion to improving health outcomes and continue to emphasize person-centered planning, maximum independence, and freedom of choice, while being fully Medicaid-funded. Social workers, by the nature of their professional values and Code of Ethics (National Alliance of Social Workers, 2008) must make sure that everyone who is working with a resident has access

to information on the interaction between food and health, human nutrition, and cooking skills. There are many influences on an individual's food environment that are out of their control. As a social worker, helping clients overcoming the barriers support staff face on a daily basis will help us provide better services to residents, and ultimately enhance their path to independence.

Finally, social workers need to realize the power they have in shaping policy that may impact their resident's food environment, health and safety, and independence. Working directly with individuals gives social workers a unique perspective on what works and what doesn't work in the field. If there is a policy, rule, or regulation that could potentially impact our clients, it is our duty to advocate on their behalf of our clients and tell policy makers why it may or may not be beneficial to those we serve. Taking part in the political process is key if we want social justice for our clients.

Conclusion

This research shows, that despite previous literature, it is possible to create healthy food environments in settings that lack a regulation or rule to do so, but it is dependent on dedicated residents, support staff, and having access to healthy foods. Setting individuals with IDD up to have the opportunity to have a healthy food environment in whatever setting they choose is a crucial duty of providers. Healthy food environments can help resident's maintain their health for as long as possible, which can translate into maintaining independence as long as possible. While the Ohio residential services system transitions, it is extremely crucial that providers find ways to promote health and independence, so the transition does not have negative implications for those the system serves.

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Appendix 1: ICF Menu

Menu

Cycle: Fall/Winter 2015-2016
Week:1
Diet: General

	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
BREAKFAST	Choice From Breakfast Cards Decaf Coffee or Tea (optional)	Choice From Breakfast Cards Decaf Coffee or Tea (optional) Category Choose A 1 B 2 C 1 Beverage**	Choice From Breakfast Cards Decaf Coffee or Tea (optional) Category Choose A 1 B 2 C 1 Beverage**	Choice From Breakfast Cards Decaf Coffee or Tea (optional) Category Choose A 1 B 2 C 1 Beverage**	Choice From Breakfast Cards Decaf Coffee or Tea (optional) Category Choose A 1 B 2 C 1 Beverage**	Choice From Breakfast Cards Decaf Coffee or Tea (optional) Category Choose A 1 B 2 C 1 Beverage**	Choice From Breakfast Cards Decaf Coffee or Tea (optional)
LUNCH	¾ c. Tomato Soup 1 ea. Grilled Cheese w/2 oz. Cheese w/2 sl. Bread ½ c. Peaches Beverage** Water	1 pc. Fruit	1 c. White Chicken Chili 1 c. Tossed Salad w/D.Dressing ½ c. Fruited Gelatin (Diet) 1 ea. Roll Beverage** Water	2 ea. Battered Fish Wedges ½ c. Mixed Vegetables ½ c. Cole Slaw ½ c. Pudding (Diet) Beverage** Water	1 c. Ziti Bake **or** 1 c. Lasagna ½ c. California Mix Vegetables 1 c. Lettuce with 2 tsp. Dressing* ½ c. Sherbet Beverage** Water	1 pc. Zesty Chicken (no skin) with Rice & Vegetables **or** 1 pc. Salsa Chicken ½ c Calif Mixed Vegetables 1 ea. Breadstick ½ c. Applesauce Beverage** Water	1 sl. Pizza (4" X 6") 1 c. Tossed Salad with 2 tsp. Dressing ½ c. Pineapple 2 ea. Plain Cookies Beverage** Water
3:00 P.M. SNACK	1 pc. Fruit	1 pc. Fruit	1 pc. Fruit	1 pc. Fruit	1 pc. Fruit	1 pc. Fruit	1 pc. Fruit
DINNER	3 oz. Crispy Herbed Chicken (with no skin) **or** 3 oz. Baked Chicken ½ ea. Baked Acorn **or** ½ c. Butternut Squash **or** ½ c. Sweet Potatoes ½ c. Broccoli Cuts ½ c. Pears Beverage** Water	1 c. Spanish Rice **or** 1 c. Skillet Beef Hash ½ c. Seasoned Greens ½ c. Apricots **or** ½ c. Peaches 1 sl. Cornbread Beverage** Water	1 c. Tossed Salad w/D.Dressing ½ c. Fruited Gelatin (Diet) 1 ea. Roll Beverage** Water	½ c. Mixed Vegetables ½ c. Cole Slaw ½ c. Pudding (Diet) Beverage** Water	½ c. California Mix Vegetables 1 c. Lettuce with 2 tsp. Dressing* ½ c. Sherbet Beverage** Water	with Rice & Vegetables **or** 1 pc. Salsa Chicken ½ c Calif Mixed Vegetables 1 ea. Breadstick ½ c. Applesauce Beverage** Water	¾ c. Potato Soup 2 ea. BBQ Beef Cups ½ c. Veg. Sticks/Dressing* ¾ c. Strawberries Beverage** Water
EVENING SNACK	Select 1 item from Snack Chart Plus 1 c. Skim Milk	Select 1 item from Snack Chart Plus 1 c. Skim Milk	Select 1 item from Snack Chart Plus 1 c. Skim Milk	Select 1 item from Snack Chart Plus 1 c. Skim Milk	Select 1 item from Snack Chart Plus 1 c. Skim Milk	Select 1 item from Snack Chart Plus 1 c. Skim Milk	Select 1 item from Snack Chart Plus 1 c. Skim Milk

* Reduced or Fat Free salad dressings/mayonnaise are to be used for clients on controlled calories.
** Clients on Controlled Calories are to be served beverages containing no calories – Ex: Crystal Light, Sugar-Free Kool-Aid, Decaf Tea, Coffee, or Diet Pop.

Apartment: _____

Date: _____

Dietician: _____

DIETICIAN FALL/WINTER 2015-2016

Appendix 2: Resident Interview Guide

ONLY SUPPORTED LIVING

1. How do you decide what to eat?
2. How does staff help you cook?
3. When you go grocery shopping do you need staff to help? How do they help you?

ONLY ICF

4. How do you feel when staff changes what is on the menu?
5. How do you feel when staff give you options on what to eat?
6. What do you do if you don't want to eat what is served on the menu?

BOTH

7. How does staff help you try new foods?
8. Do you like it when your staff sits down and eats with you? How does it make you feel when they sit with you?

Appendix 3: Mealtime Observation Field Tool

What food is being served?	What was listed on the printed menu?	How is the meal served? Buffet? Family Style?
Can people get seconds?_____ Is desert served? _____ Types of beverages available? _____ Are staff sitting at the table? _____ Are staff eating the meal? _____ What types of prompts are staff giving residents? _____	How was the meal prepared (taken out of a box, made from scratch, etc)	Other observations:

Appendix 4: Staff Survey

Q1. What type of residential facility do you work in?
- ❍ Intermediate Care Facility (Dierker Road)
- ❍ Supported Living

Q2. What is your job?
- ❍ Direct Support
- ❍ Manager

Q3. How long have you been working at the facility?
- ❍ 0-4 months
- ❍ 4-6 months
- ❍ 7 months-1 year
- ❍ Over 1 year

Q4. How old are you?
- ❍ 18-30
- ❍ 31-40
- ❍ 41-50
- ❍ 51-60
- ❍ 61+

Q5. What gender do you most identify with?
- ❍ Male
- ❍ Female
- ❍ Other
- ❍ Prefer not to answer

Q6. What country were you born in?

_____

Q7. How long have you lived in the United States?
- ❍ Less than 1 year
- ❍ 1-5 years
- ❍ 5-10 years
- ❍ Over 10 years
- ❍ My whole life

Q8. List all languages you can speak or write starting with language you feel most comfortable using to the least comfortable.

_____

_____

If you are a manager, please continue to the next question. If you are a direct support professional please turn to page 5 and continue answering the questions.

Q9. Before working here, did you have any training, formal or informal, on nutrition or diet?
- ❍ Yes
- ❍ No

Q10. Describe how you think this knowledge has impacted your time working here.

_____

_____

Q11.. Before working here did you have any training, formal or informal, on how to properly cook food?

- ❍ Yes
- ❍ No

Q12. Describe how you think this knowledge impacted your time working here.

_____

_____

Q13. How important are the following skills to being successfully to this job? 0 being not important at all, 5 being the most important skill needed to work here.

_____ Cooking
_____ Nutrition Knowledge

Please continue to the next page>>>

Q14 Answer the following questions.

	Strongly Disagree	Disagree	Neither Disagree or Agree	Agree	Strongly Agree
My staff knows how to cook and I am comfortable with them cooking at work.	❍	❍	❍	❍	❍
My staff knows how to properly clean and prepare fresh produce.	❍	❍	❍	❍	❍
My staff understand common cooking terms like broil, julienne, and blanch.	❍	❍	❍	❍	❍
My staff can easily explain how to make a meals for clients.	❍	❍	❍	❍	❍
If my staff were confused about how to make a dish, they know of resources that could instruct them how to make the dish.	❍	❍	❍	❍	❍
My staff knows the difference between healthy and unhealthy meals.	❍	❍	❍	❍	❍
It is important clients eat as healthily as possible.	❍	❍	❍	❍	❍
Meals made from scratch are healthier than pre-made meals from a box.	❍	❍	❍	❍	❍
My staff knows how to read a nutrition label so they can pick the healthiest option while grocery shopping for or with my clients.	❍	❍	❍	❍	❍
My staff regularly sits at the table with my residents.	❍	❍	❍	❍	❍
My staff regularly eats the same meals as the residents.	❍	❍	❍	❍	❍
Since I started working here I have become more comfortable trying new foods.	❍	❍	❍	❍	❍

I have taken recipes I learned at work and made them for my own family.	❍	❍	❍	❍	❍

Q15. How do you encourage staff to cook healthy meals for your clients?

_____

_____

Q16. Describe any barriers you think your staff may face preventing them from making a meal from scratch.

_____

_____

Describe how you would typically respond to the following situations:

Q17. A resident doesn't want to try a new food.

_____

_____

Q18. A resident only wants to eat junk food for all their meals.

_____

_____

Q19. A staff member isn't cooking "traditional American" meals for residents. For example staff cooks rice, fish, and beans instead of cereal, eggs or toast for breakfast.

_____

_____

Direct Care Professionals:

Q9. Before working here, did you have any training on nutrition or diet?

❍ Yes
❍ No

Q10. Describe how you think this knowledge has impacted your time working here.

_____

_____

Q11. Before working here did you have any training on how to properly cook food?

❍ Yes
❍ No

Q12. Describe how you think this knowledge helps or hinders your time working here.

_____

_____

Q13. How important are the following skills to this job? 0 being not important at all, 5 being the most important skill needed to work here.
_____ Cooking
_____ Nutrition Knowledge
Q14. Answer the following questions.

	Strongly Disagree	Disagree	Neither Disagree or Agree	Agree	Strongly Agree
I know how to cook and I am comfortable cooking at work.	❍	❍	❍	❍	❍
I know how to properly clean and prepare fresh produce.	❍	❍	❍	❍	❍
I understand common cooking terms like broil, julienne, and blanch.	❍	❍	❍	❍	❍
I know how to read the weekly menu.	❍	❍	❍	❍	❍
It is important to follow the menu as closely as possible.	❍	❍	❍	❍	❍
If I was confused about how to make a dish on the menu, I know where to go to find directions.	❍	❍	❍	❍	❍
I know the difference between healthy and unhealthy meals.	❍	❍	❍	❍	❍
Understanding nutrition is an important skill to have for this job.	❍	❍	❍	❍	❍
It is important my residents eat as healthily as possible.	❍	❍	❍	❍	❍
Meals made from scratch are healthier than pre-made meals from a box.	❍	❍	❍	❍	❍
I know how to read a nutrition label so I can pick the healthiest option	❍	❍	❍	❍	❍

while grocery shopping for residents.					
I regularly sit at the table with my residents.	❍	❍	❍	❍	❍
I regularly eat the same meals as the residents.	❍	❍	❍	❍	❍
Since I started working here I have become more comfortable trying new foods.	❍	❍	❍	❍	❍
I have taken recipes I learned at work and made them for my own family.	❍	❍	❍	❍	❍
I feel supported from my superiors to cook healthy meals for my residents.	❍	❍	❍	❍	❍

Q15. Circle the healthiest beverage:

Q16. Circle the healthiest side dish:

Q17. List specific ways your bosses encourage cooking healthy meals from the menu.

_____

Q18. What barriers do you face to cooking meals from scratch?

_____

Q19. What are reasons for making meals not listed on the menu?

_____

Q20. Over the past month, estimate how many times meals served differed from meals on the menu. Only count a meal if it was changed for all of the residents.

- 1-2 times over the past month
- 3-5 times over the past month
- 1-2 times every week
- 3-4 times every week
- More than 5 times every week

Describe how you would typically respond to the following situations:
Q21. A resident doesn't want to try a new food.

_____

Q22. A resident only wants to eat junk food for all their meals.

_____

Q23. A resident refuses to eat what is being served.

_____

Appendix 5: Staff Survey Recruitment Letter

THE OHIO STATE UNIVERSITY

The Ohio State University
College of Social Work

1947 College Road
Columbus, Ohio 43210

Csw.osu.edu

Subject: Ohio State University Food and Nutrition in Residential Settings Survey

Dear potential study participants,

My name is Christine Touvelle and I am a senior at The Ohio State University in the College of Social Work. I am currently in the honors program completing a senior theses. If you have not already heard about my study, my focus is on food and nutrition inside intermediate care facilities and supported living sites. I am combining observations with surveys of residents and staff from multiple FCRS sites to gain a clear picture on how these housing systems meet the nutritional needs of their residents.

So I need your help!

I am looking for staff members who are willing to complete an online survey that should take no longer than 15 minutes of your time. The survey can be completed on any cellular device with access to the Internet or any computer. All I ask is you answer as honestly as possible! Every response to the survey will remain confidential.

Taking part in the study is 100% optional, and I greatly appreciate your time! You may stop taking the survey at any time once you have started it.

All participants will be awarded a $15 online gift card to Amazon.com.

You can take part in the study by clicking this link:

https://osu.az1.qualtrics.com/SE/?SID=SV_4JCu4xqjEERILd3

If you have any questions regarding the study, how to participate, or questions about confidentiality, please feel free to email Christine Touvelle at Touvelle.1@osu.edu.

Sincerely,

Christine Touvelle

The Ohio State University
College of Social Work
Touvelle.1@osu.edu